NUCLEAR REGULATORY COMMISSION

COMMISSION MEETING

In the Matter of: PUBLIC MEETING

BRIEFING ON MCGUIRE OPERATING LICENSE

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1 UNITED STATES OF AMERICA

2 NUCLEAR REGULATORY COMMISSION

3

4 BRIEFING ON MCGUIRE OPERATING LICENSE

5

6 PUBLIC MEETING

7

8 Nuclear Regulatory Commission

9 Room 1130
1717 H Street, N. W.
Washington, D. C.

10

11 Tuesday, June 9, 1981

12 The Commission met, pursuant to notice, at

13 10:05 a.m.

14 PRESENT:

15 JOSEPH M. HENDRIE, Chairman of the Commission
VICTOR GILINSKY, Commissioner
16 PETER A. BRADFORD, Commissioner
JOHN F. AHEARNE, Commissioner

17

18 ALSO PRESENT:

19 J. HOYLE
L. BICKWIT
D. EISENHUT
20 R. BIRKEL
J. SCINTO
21 S. HANAUER
H. DENTON
22 D. VOLLMER
D. QUICK
23 D. RATHBUN
B. ZALCMAN
24 M. WILBER
F. PAGANO
25 F. MIRAGLIA

* * *

DISCLAIMER

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1 P R O C E E D I N G S

2 CHAIRMAN HENDRIE: The meeting will come to order.

3 (Slide.)

4 CHAIRMAN HENDRIE: That is not my slide, by the

5 way, for those who may wonder.

6 The Commission meets this morning for a Briefing

7 on the McGuire Operating License. As some of you may know,

8 the Commission normally has a briefing from the staff as

9 licenses get ready to issue to provide an opportunity for

10 Commissioners to hear the staff at the final stage and

11 discuss items that may be of interest to individual

12 Commissioners.

13 In the McGuire case the operating license has been

14 contested and that means that with regard to those issues

15 which have been in the hearing there is an ex parte bar

16 between the Commission and any party which I guess we could

17 get around by having a meeting at which all parties were

18 duly present.

19 The nature of our discussion this morning,

20 however, will be to hear from the staff on those matters

21 pertinent to the McGuire operating license that have not

22 been at issue in the hearing, the whole uncontested area of

23 the license application and review.

24 Later this morning after we have had the staff

25 briefing on the uncontested aspects of the McGuire operating

1 license the Commission will commence its own discussions of
2 that application. Since that is a matter in which the
3 Commission will be operating in its adjudicatory role, that
4 meeting will be closed. When we get to the appropriate
5 stage, why we will inform those of you who have to leave to
6 leave.
7 Harold, good morning. Please go ahead.
8 MR. DENTON: Thank you, Mr. Chairman.
9 I have with me this morning on my right Don Quick
10 who is the Section Head from Inspection and Enforcement
11 responsible for this plant. Sitting behind me in the
12 audience is Mary Jane Graham the Resident Inspector for
13 McGuire. Ralph Birkel, the Project Manager is on Darrell's
14 left. He and Darrell will make the presentation.
15 What we will cover will be the results of our
16 review of this plant in those areas which were not in
17 controversy.
18 Darrell.
19 MR. EISENHUT: Thank you.
20 (Slide presentation.)
21 If we could go to the agenda slide. What we would
22 like to do is just walk through those areas and highlight
23 those areas, as Harold said, that are not in controversy and
24 some of the keys areas that we have been briefing you on on
25 the plants that we have gone through over the last few

1 months.

2 We will just go down breaking them out as non-TMI

3 and TMI items and then I&E will give a service status of

4 where the plant is.

5 The next slide is meant to be just a simple recap

6 I am sure everyone is familiar with. I will add a couple of

7 things here in a minute.

8 The zero power license was issued on January

9 23rd. The plant has loaded fuel and has been going through

10 sort of some shake-down activities. They have not yet gone

11 critical. The latest official schedule that we have is

12 contained in a May 28th letter which says that initial

13 criticality cannot be accomplished before about June 19th.

14 I understand informally that that is running about a week or

15 so later right now.

16 The completion of the zero power testing, the

17 latest official schedule was June 29th and I understand that

18 has not slipped to like the first week of July or early in

19 July.

20 The next bullet there just highlights that this

21 plant is somewhat of a sister plant following Sequoyah. It

22 is very, very similar in design. One of the only

23 differences is one of the differences we have talked about

24 before, the containment is a little bit stronger on McGuire

25 than it is on Sequoyah. I believe the numbers were 15 psi

1 versus 12 psi design.

2 One other thing we would like to mention is some

3 refinements to the McGuire license from the package we sent

4 down to you earlier. They are really revisions to a

5 license.

6 If I could go to the slide on license refinements.

7 What we did was we revised the license somewhat to

8 correct some errors that were in it and add a couple of

9 things in. This reflects some of the guidance and the

10 comments and the refinements you have seen in various

11 licenses that we have been going through.

12 Two pieces were inadvertently left out. One was

13 sort of the standard clause on masonry walls. This plant,

14 remember, had gone through and had the wrong criteria and

15 fixed up the plant using their criteria. The thing we are

16 adding here is that after we look at the differences between

17 their criteria and the staff develops its own criteria a

18 commitment to the licensee to go back and relook to the

19 staff's criteria when they are developed.

20 COMMISSIONER GILINSKY: Darrell, is what we have

21 here the corrected license?

22 MR. EISENHUT: Yes, it is. I believe it was

23 handed out this morning. Just so you don't have to go

24 through all the pages and try to cross-check them, I am just

25 highlighting the key differences in the two licenses.

1 There was an item on control room design which we
2 will be mentioning in the briefing and the control room
3 design had some follow-on activities that have yet to be
4 accomplished. We put those in as a license condition but we
5 will be briefing you in a little more detail on that.
6 We made some changes to the license to better
7 reflect that activities had to be done. There were actually
8 some typos, for example, that referred to TVA in the old
9 license and it should have said the licensee.
10 COMMISSIONER AHEARNE: It was just a novel
11 regulatory error?
12 MR. EISENHUT: It was a novel regulatory error;
13 that is correct.
14 (Laughter.)
15 MR. EISENHUT: There were also some where we laid
16 license conditions on I&E and we thought those ought to be
17 corrected.
18 COMMISSIONER AHEARNE: You are going to have to
19 settle your squabbles among yourselves.
20 MR. EISENHUT: That is right.
21 CHAIRMAN HENDRIE: Why, did I&E object they were
22 too onerous?
23 MR. EISENHUT: I just couldn't believe it.
24 (Laughter.)
25 MR. EISENHUT: There were a number where we put in

1 what I will call the better language framework of actually
2 making the real commitment into the license.
3 Another one we changed was the old language
4 concerning NUREG 696 that said the previous commitment in
5 the previous license said they had to meet the requirements
6 of 696. The Commission's program clearly points out that
7 696 is not a requirement but it is staff guidance for the
8 review. So we fixed that one in the license.
9 The implementation schedule for NUREG 737
10 requirements, there was one where the language got a little
11 garbled and that was on safety relief valve testing dates.
12 That has been fixed in this license to conform with the 737
13 requirements.
14 And there were a number of editorial errors which
15 I mentioned before.
16 Again, I just mention those so that you don't have
17 to take the two licenses and compare them. This points out
18 the principal differences.
19 What we would like to do now is go through the
20 non-TMI matters and Ralph will be going through and
21 addressing the key issues that we have identified here.
22 These again are the principal areas that we have been
23 discussing in each briefing. That is somewhat the reason we
24 cover these particular issues. There are no other principal
25 non-TMI issues that are unique that present any unusual

1 problems that we have identified with the plant.

2 COMMISSIONER GILINSKY: I wonder if sometime

3 during the meeting you could tell us a little bit about the

4 PN that we got yesterday.

5 MR. EISENHUT: We will address that when we got to

6 it.

7 COMMISSIONER GILINSKY: Fine.

8 MR. EISENHUT: Go ahead.

9 MR. BIRKEL: Basically we have five non-TMI areas

10 of interest that we would like to bring to your attention

11 again. These have already been discussed with you in the

12 January 21 briefing, but we would like to up date those.

13 The first item is fire protection. Basically the

14 fire protection design for the McGuire Station has been

15 backfitted to meet the three items that we require for

16 Appendix R considerations. One of those three has already

17 been completed by the licensee. That is the emergency

18 lighting.

19 The other two are contained as license conditions

20 in the draft license that you have before you. They involve

21 the 3-G fire protection for the safe shutdown capability and

22 that due date you might say a milestone would be during the

23 first refueling. The other item which is still outstanding

24 from a backfit standpoint is 3-O. This is the oil

25 collection system for the reactor coolant pumps. Again,

1 that is a requirement to have that installed and implemented
2 by the first refueling.
3 COMMISSIONER BRADFORD: What about 3-L?
4 MR. BIRKEL: That is emergency lighting.
5 COMMISSIONER BRADFORD: 3-L.
6 MR. VOLLMER: 3-L is the associated circuits which
7 really is encompassed in 3-G. It is sort of brought in. So
8 3-G will cover both of those.
9 COMMISSIONER BRADFORD: What about the alternate
10 dedicated shutdown capability?
11 MR. VOLLMER: In this particular plant, as Ralph
12 had indicated, they are putting in what we would call a safe
13 shutdown system which is a dedicated shutdown system which
14 will have its own power supply, its own dedicated
15 instruments and its own make-up capability in terms of water
16 to the core.
17 We have received, as indicated in one of our SERs,
18 that we would get the information on the design of this
19 system from the licensee in March. We did receive that and
20 we are presently evaluating it and the licensee has
21 committed to install it by, as Ralph had indicated, by the
22 first refueling outage or shortly thereafter.
23 In the interim they do have the capability for
24 safe shutdown from outside the control room which we would
25 classify as an acceptable alternative shutdown system.

1 COMMISSIONER BRADFORD: So it is 4(a) on page 4 of
2 the license, is it, that is intended to fulfill that
3 requirement?
4 MR. VOLLMER: That is right. Yes, it does.
5 COMMISSIONER BRADFORD: In your view that is
6 identical to the fire protection requirement itself? That
7 fulfills it?
8 MR. VOLLMER: I am sorry. Would you repeat that?
9 COMMISSIONER BRADFORD: What seems curious is that
10 you go through a number of individual items saying Duke
11 Power shall comply with Sections 3(g), 3(o) and
12 what-have-you. Then on this point you describe the system
13 itself but you don't mention the condition that it is to
14 comply with and I just wanted to be sure that in fact there
15 wasn't some variance between the system that is described in
16 Section A here and the requirement for the alternate
17 dedicated system.
18 MR. VOLLMER: The plant again was reviewed ---
19 COMMISSIONER BRADFORD: Let me ask it another
20 way. What you are telling me is that this dedicated system
21 does fully comply with the requirement in your view?
22 MR. VOLLMER: That is right, but it not installed
23 yet. We are reviewing the design currently, but in the
24 interim they do have adequate means to shut down the core in
25 the event a fire occurs in an area which could potentially

1 damage redundant safety systems. These do contain
2 procedures and I&E and Mary Jane I think could address
3 that. We have looked at these and feel confident that
4 indeed Duke Power could shut down the reactor in the event
5 of a fire which would threaten redundant systems.
6 In addition to that, they did comply with meeting
7 Appendix R, but the meeting of 3-G will really be
8 accomplished primarily by the installation of a dedicated
9 shutdown system which not too many plants have committed to
10 the installation of dedicated shutdown.
11 COMMISSIONER GILINSKY: The difference between
12 what is in place now and what would be in place is you have
13 to operate controls at various places in the plant; is that
14 the point?
15 MR. VOLLMER: That is right. You have to go
16 specifically by procedure to areas in the plant which will
17 circumvent the fire area that could potentially threaten
18 your safe shutdown capability. So you go somewhere else to
19 shut down the plant.
20 In the system to be installed, it would be
21 dedicated. It would be separate and distinct from the
22 normal plant system. The alternate shutdown would use
23 normal plant systems but use them in different locations and
24 through different electrical paths than the normal path.
25 the dedicated shutdown system circumvents all that by using

1 separate and distinct paths.

2 COMMISSIONER GILINSKY: Would that be operated

3 from one location or would that also involve operating

4 controls at various places?

5 MR. VOLLMER: I don't know specifically.

6 MR. BIRKEL: That would be one location. They are

7 all at one location, sir.

8 The next item is the environmental qualification

9 matter on which we performed our full audit in November of

10 last year. We found no major deficiencies at that time and

11 we have issued a equipment evaluation report subsequently as

12 well as a safety evaluation report which is contained in our

13 Supplement No. 5 issued in mid-April.

14 We are starting a 90-day clock, if you will, with

15 that date. The licensee will and is in the process we

16 understand of evaluating the appendices requiring certain

17 corrected actions. They are due to provide this evaluation

18 to us by mid-July, with of course the completion of any

19 required corrective action by June of 1982.

20 COMMISSIONER GILINSKY: Now is that a realistic

21 date?

22 MR. BIRKEL: The June of '82 or the July 15th

23 date? The July 15th date from my understanding in

24 discussions with the applicant is very realistic. They will

25 have something in our hands for us to evaluate by June 15th.

1 COMMISSIONER GILINSKY: Well, I meant the other
2 one, although I was interested in both.
3 MR. DENTON: I understand this came up before. My
4 understanding is that every testing laboratory in the
5 country that can do environmental qualifications is fully
6 engaged and we may very well have to get back to you with
7 some sort of prioritizing of equipment because it is
8 increasingly looking as though, in spite of an all-out
9 effort by industry to meet that date, there are just not
10 enough test facilities and ways to demonstrate it by that
11 date. So we have begun to talk about doing those components
12 which are more critical to safety first and seeing what is
13 left and how to handle it. It appears to be a very close
14 race and we are not prepared yet to say whether it can be
15 met yet by all plants or not.
16 COMMISSIONER BRADFORD: Darrell was quite prepared
17 about three days ago to say the race was lost.
18 MR. DENTON: It depends on who you talk to.
19 MR. EISENHUT: I am still saying that I think I
20 would be surprised if any plant came in and met every item
21 across the board on a plant because you have got to look at
22 what is really being required on hundreds and hundreds of
23 components.
24 MR. DENTON: In fact, there were some people who
25 told you at the time you adopted it that it couldn't be

1 meant period because of the aging requirements.

2 MR. EISENHUT: That is right.

3 MR. DENTON: So depending on how some of those

4 things come out, it is a very rigorous requirement.

5 MR. EISENHUT: I should point out the other way

6 around, too. We are leaving the June '82 date in for the

7 very reason that, you know, everyone in the entire industry

8 is going to have to put all their efforts on to try to make

9 that date and we certainly could not estimate a better date

10 for you today.

11 It goes back to when we established the date in

12 the very first place. It was a couple of years or more away

13 at that point in time and unless you really try and the

14 industry puts all their efforts to make you will never know

15 how good you can really do.

16 COMMISSIONER BRADFORD: It sounds like the

17 celebrated licensee completion dates in our version of the

18 debate we have been having over whether to use applicant

19 completion dates or other.

20 CHAIRMAN HENDRIE: Just exactly. You want a

21 forcing schedule but even as you prescribe it you know that

22 you may have to slip it before you are through.

23 MR. DENTON: Since this is one of 70, I wouldn't

24 see dealing with this one any differently than all the

25 rest. If it comes down later on then at some point we will

1 have to make a finer cut at it than just a date, in other
2 words, we will need to know what components can't meet what
3 dates.
4 COMMISSIONER GILINSKY: Do you have something in
5 the works that will lead to that? You are not going to wait
6 until June 30th, '82.
7 MR. DENTON: No. We are a year away and we will
8 be down here as soon as we can get it together.
9 COMMISSIONER AHEARNE: Realistically if we slipped
10 it now then there would be a big relaxation.
11 COMMISSIONER GILINSKY: Well, but once we talk
12 about it in this way I think everyone understands.
13 COMMISSIONER AHEARNE: He talked about it that way
14 a year ago.
15 MR. EISENHUT: Yes. I am certainly not pointing
16 out anything that I didn't point out a year ago I think. It
17 is a very ambitious schedule to come up and have all those
18 things with aging and everything done by June 30th, '82.
19 COMMISSIONER GILINSKY: There may be certain
20 things that we really do want done by June 30th, 1982.
21 MR. EISENHUT: That is right.
22 COMMISSIONER GILINSKY: We ought to identify those
23 early.
24 MR. DENTON: Well, we are pointing toward that,
25 but we are not prepared today to recommend the slip because

1 we don't have the facts and it will take us a while to
2 really see how far they have come. We will attempt to get
3 back to you in the next few months to see what can be tested
4 and what might be considered for deferral if absolutely
5 necessary.
6 COMMISSIONER AHEARNE: Harold, at one point you
7 had said there were some problems in which one utility would
8 not want to share equipment qualification data that it had
9 obtained with other utilities. Has that been overcome or
10 does it still exist? You would going to try to set up some
11 kind of an industry clearinghouse.
12 MR. DENTON: I have preached that gospel. Whether
13 it has occurred or not, let me ask Mr. Vollmer what he
14 thinks is happening in this area.
15 MR. VOLLMER: We have set up our own computer file
16 system which gives us the ability to look across the board
17 for reactors to see that it is qualified. Whether or not
18 all the history problems have been solved, from our review
19 process we do take a look across the board for priprietary
20 and nonproprietary informaton and we feel we have been
21 successful in getting all the information we requested.
22 COMMISSIONER AHEARNE: The point that Harold had
23 made was that when you told him they paid for getting a
24 certain type of equipment qualified and since they had
25 invested the money in getting that test run that they were

1 reluctant then to then share that information with other
2 utilties. I would suspect that we would require the second
3 utility to have the proof and not that we would alone have
4 the proof.
5 MR. VOLLMER: To some extent I think those
6 problems have been solved, but to some extent with specific
7 vendors I think they remain outstanding. They don't affect
8 our review but I think those problems do exist though.
9 MR. DENTON: It is not an issue we can deal with
10 the industry on very easily. We have dealt with the
11 individual licensees, but we have not put a lot of effort
12 into that.
13 COMMISSIONER AHEARNE: There are some industry
14 members here. I thought maybe if we raised it and talked a
15 bit they might go away and try harder.
16 MR. DENTON: It certainly would be useful.
17 MR. BIRKEL The McGuire license now contains one
18 exemption to regulation which is 10 C.F.R Appendix G having
19 to do with the fracture toughness requirements for bolting
20 material. This is primarily one, if I can use the word
21 "aging", this is an older plant ---
22 COMMISSIONER BRADFORD: I hadn't meant to let you
23 leave environmental qualifications quite yet. I am sorry.
24 When you say no major deficiencies identified, does that
25 mean this plant is in much better shape than the others that

1 we have heard about in the last month to six weeks, or do
2 you in fact contemplate a list of several hundred items
3 coming in on July 15th with problems?
4 MR. VOLLMER: I think the correct envelope to put
5 this plant in is that it is similar to other plants that we
6 have recently licensed. The "no major deficiency"
7 identification there would mean that there are no items that
8 we have found which are non-qualified and which would
9 preclude safe shutdown or create an imminent safety problem.
10 Now, the list as you see here contains I think 110
11 or 115 items which have various types of identified
12 qualification deficiencies. Some of these are based on
13 margins and some are based on documentation. This is very
14 similar to our recently licensed plants.
15 Now, the reason that this list is much smaller by
16 a factor of ten than, for example the Sequoyah plant which
17 you just looked at, is that Sequoyah listed each item and
18 this listed classes of equipment. There is really no
19 appreciable difference in the two. It is just the
20 information that was received from the licensee took a
21 different form.
22 MR. DENTON: For a plant, Dick, by the same vendor
23 in the same age you would expect the same degree of parts.
24 MR. VOLLMER: That is correct.
25 MR. DENTON: It is only when you move to a

1 different stage of ordering the plant is the equipment
2 likely to take a quantum jump in the first cut or a
3 different type of plant.
4 MR. VOLLMER: As far as items that are fully
5 qualified except for aging, this plant again is typical of
6 the order of 15 percent of the items which are found except
7 for aging to be fully qualified. When we get the 90-day
8 report in we would expect that additional information and
9 additional test reports which we may not have reviewed as
10 yet will indicate that some of those items will come off the
11 list. Anything that doesn't come off the list or is not
12 immediately replaced has to have a safety justification made
13 for it for the interim operation until June 30th of '82.
14 MR. DENTON: I think it is very similar to the
15 previous PWRs that you have seen.
16 CHAIRMAN HENDRIE: Onward to the exemption.
17 MR. BIRKEL: Appendix G, as I mentioned earlier,
18 this is the only exemption from the regulations that we have
19 included in the license. It is based primarily on fracture
20 toughness requirements for bolting materials in the older
21 plant.
22 We have looked at the ASME '72 agenda, the summer
23 agenda, and indicated that we find that an alternate
24 approach toward determination of fracture toughness would be
25 appropriate and we are looking at a proposed revision to

1 Appendix G to permit older plants of this time to provide us
2 with an alternate approach towards fracture toughness. We
3 have looked at the information that the applicant has
4 provided us, or the licensee has provided us for this
5 material and found it to be acceptable. However, from a
6 legal standpoint we cannot conclude that it meets the
7 requirements of Appendix G at this time. That is the basis
8 for our going forward with an exemption request.
9 COMMISSIONER GILINSKY: Where does the revision to
10 Appendix G stand?
11 MR. DENTON: We don't know. We will have to get
12 back to you on that.
13 CHAIRMAN HENDRIE: There is a plug in the pipe
14 down there some place. If you will find the right place and
15 hammer it, why all that stuff will come shooting through I
16 am sure.
17 MR. EISENHUT: There is also, I understand, one
18 that has been left off the list here and I believe the plant
19 does require an Appendix H exemption also. Remember, this
20 is the G/H materials package. We have been going back
21 through and sort of rechecking the review on this plant
22 which was actually done in '78 with an SER in January of '79
23 about or early '79 and it needs this same Appendix H
24 exemption that we talked about on the other plants that have
25 been coming down the road.

1 COMMISSIONER AHEARNE: Can you remind me what that
2 is?
3 MR. EISENHUT: Dick, would you like to elaborate
4 on that?
5 MR. VOLLMER: The Appendix H exemption is one that
6 deals with the surveillance specimens. G and H are very
7 prescriptive. The deviation that is needed from H, for
8 example, the surveillance specimens have to be in a higher
9 flux than as seen at the vessel wall but not more than a
10 factor of three higher.
11 Well, the location of these surveillance specimens
12 sees a factor of 3.6 higher. It has no safety significance
13 but it does meet the literal words in Appendix H and
14 therefore we need an exemption.
15 CHAIRMAN HENDRIE: Onward.
16 MR. BIRKEL: The next item would be just a brief
17 mention of the environmental protection plan. I just wanted
18 to bring it to your attention that the plan has not been
19 changed. It is the same plan that we have developed for the
20 license presently effective on January 21st.
21 Basically it is the first Appendix B environmental
22 tech spec as we have divided the matter from the
23 radiological safety standpoint. We have included all the
24 effluent matters in the Appendix A of the technical
25 specifications and the water quality and so on which are

1 basically left with the state.

2 The environmental protection plan itself is one

3 that provides guidance requirements to keep the Commission

4 informed as to any changes in terrestrial or aquatic

5 activities at the site. However, the water quality itself

6 is an MPDES function and we look towards the applicant or

7 the licensee to address those to the state.

8 I just wanted to bring that to your attention.

9 The other and final item on that slide for non-TMI

10 matters are outstanding issues from the zero power license

11 and the Inspection and Enforcement portion of presentation

12 will summarize those.

13 COMMISSIONER BRADFORD: They submitted an

14 evaluation on the conformance of their core water level

15 indication to Reg Guide 1.97 by April 23. Do you have that

16 in fact?

17 MR. BIRKEL: Yes, we do, but we have not evaluated

18 it as yet. That is a matter of our licensing condition as

19 well as the Commission's effort.

20 COMMISSIONER AHEARNE: The installation of it.

21 MR. BIRKEL: Yes.

22 COMMISSIONER BRADFORD: The installation they have

23 until January 1 of '82.

24 MR. BIRKEL: Yes, sir.

25 COMMISSIONER BRADFORD: I just wanted to make sure

1 you had the analysis.

2 MR. EISENHUT: Why don't we go on to the TMI

3 matters.

4 We have got five items that we are proposing here

5 on the list of TMI matters that we would like to talk about

6 and we will go down through these in sequence.

7 The emergency preparedness, there have been some

8 changes since the last briefing we gave you in January

9 because things have evolved.

10 The other two are really follow-ups since the last

11 time, not because we have any real problems but they are

12 just continuing revisions since the January time.

13 On emergency preparedness, Frank Pagano will be

14 discussing that.

15 MR. PAGANO: I am prepared to answer any specific

16 questions you gentlemen may have. To bring you up to date

17 of where we are, we have four license conditions in our SER.

18 One was the augmented shift staffing requirement

19 by July 1, '81. The licensee had committed to fully meeting

20 Table B-1 of NUREG 654 as far as the total numbers of

21 personnel were concerned, but they had not committed to

22 fully meeting the augmentation times. So we have listed as

23 a requirement to have them complete and submit by 1 July a

24 description of how they intended to meet the full

25 requirements of Table B-1 of 654 which they have committed

1 to do.

2 Our second requirement had to do with conceptual

3 design of the emergency response facilities which they would

4 submit by 15 June. The have committed to do this and we

5 fully expect to have this information in our hands. I don't

6 think we have it at the moment, do we, Bob? No, we don't

7 have it yet.

8 COMMISSIONER AHEARNE: Can I ask you a question on

9 that?

10 MR. PAGANO: Yes, sir.

11 COMMISSIONER AHEARNE: I noticed that, and I call

12 them License A and License B, the newest License B dropped

13 one provision that was in the old license with regard to

14 that, namely, it culled out specifically the provisions with

15 respect to the safety primary display system. Could you

16 just say a word why that dropped out?

17 MR. PAGANO: Simply because we weren't

18 specifically trying to aim at Duke Power in that we were

19 just parroting a letter that we had sent on the 18th of

20 February to all licensees. It looked like that we were

21 aiming at Duke Power to specifically respond to these and

22 that was not our intent when we wrote it.

23 COMMISSIONER AHEARNE: Clearly the license

24 condition is specifically aimed at Duke Power.

25 MR. PAGANO: Yes, sir, but if you read the

1 sentence ---

2 COMMISSIONER AHEARNE: I have it right in front of

3 me.

4 MR. PAGANO: Yes, sir. We put a period after the

5 word "met" to say that they will meet the requirements of

6 the guidance.

7 COMMISSIONER AHEARNE: Right.

8 MR. PAGANO: We thought that was fully explanatory.

9 COMMISSIONER AHEARNE: By its omission should I

10 conclude anything about whether you expect them to provide

11 those provisions?

12 MR. PAGANO: No, sir. That was a glitch that got

13 in there that we had taken from a previous letter we had

14 sent to all licensees in the nation. It looked like we were

15 aiming specifically at Duke Power to provide and that was

16 not the case.

17 COMMISSIONER AHEARNE: But Duke well understands

18 that that also has to be provided?

19 MR. PAGANO: Yes, sir.

20 There was a question that came up that someone

21 asked me that I think I would like to explain now before one

22 of the Commissioners asks me.

23 The letter that we got from FEMA has a concluding

24 paragraph in it where it says that they approved the North

25 Carolina state and local plans relative, blah, blah, blah,

1 to a satisfactory implementation of an alert and
2 notification system.
3 I would like to explain that FEMA puts that in as
4 a standard caveat in all of their letters simply because the
5 the alert notification systems do not have to be in place
6 until 1 July this year. Therefore they don't have a means
7 of testing that until subsequent to 1 July.
8 As you probably remember from Mr. Dickie's last
9 appearance here, he said he was going to give us a report on
10 or about 1 July of the status of the emergency and alert
11 facilities throughout the nation.
12 It is not an open item with us here. It is a
13 requirement in the rule. It is in 10 CFR, Part 50, Appendix
14 E. The system is designed and is currently being installed
15 and the commitment is made in the plant to have it
16 implemented by 1 July.
17 MR. EISENHUT: Also the letter that we are
18 referring to is the June 4th letter from FEMA where they
19 just recently included this. We do not have a license
20 condition on the alert notification system because again it
21 is already in the regulations.
22 MR. PAGANO: Yes, and that commitment is to have
23 it in place and functioning by 1 July.
24 The only other conditions we had we had were in
25 the meteorological area. If you gentlemen have any

1 questions in that area I will defer to the meteorologist.

2 COMMISSIONER GILINSKY: Could you explain the

3 third one, N(3), the licensee shall revise, prior to

4 exceeding one percent power, the emergency plan implementing

5 procedures to incorporate the following in dose projections:

6 You say (a) actual sources terms rather than

7 design basis accident source terms.

8 MR. ZALCMAN: Mr. Gilinsky, the submittal that

9 McGuire had made on the emergency plan and the implementing

10 procedures did not incorporate one other area that we are

11 looking for in characterizing those projections, and that is

12 the use of actual source terms rather than design bases.

13 They are set up now just to look at design bases without

14 actual measurements. This would be incorporated prior to

15 exceeding the one percent.

16 COMMISSIONER GILINSKY: Would you explain this a

17 little further. Does that mean that in the event of an

18 accident the projections are already based on the measured

19 releases or what?

20 MR. ZALCMAN: We have the combined effect of

21 looking at net monitor readings, projected releases based on

22 containment activity and we have a concern for looking at

23 dose projections when we have measurements that are

24 off-scale as well. So to incorporate hand-held monitor

25 readings as well as net monitor readings, the procedure that

1 was provided by McGuire should now be modified prior to
2 going beyond one percent so in fact they can project
3 properly. Right now they only go with design bases and then
4 provide a more conservative assessment than entirely would
5 be necessary.
6 COMMISSIONER GILINSKY: They are now more
7 concerned with the necessary?
8 MR. ZALCMAN: Right, and we are trying to get
9 realistic diffusion calculations and realistic dose
10 projections.
11 COMMISSIONER GILINSKY: For use in the event of a
12 release?
13 MR. ZALCMAN: Correct. If you look at action
14 levels you have four emergency classes. You have the need
15 for looking at adverse meteorological conditions as well as
16 design bases of various terms. As you progress you try and
17 get more realistic to determine the actual projected dose to
18 the environs.
19 COMMISSIONER GILINSKY: And realistic
20 meteorological conditions as well?
21 MR. ZALCMAN: Correct, rather than just the design
22 bases.
23 COMMISSIONER GILINSKY: And the instruments in
24 place should allow them to do this?
25 MR. ZALCMAN: I can't speak to the instruments,

1 but the procedure in place should be able to factor in the
2 monitor readings.
3 CHAIRMAN HENDRIE: Vic, occasionally in a drill
4 and on occasions in incidents the emergency center will ask
5 a question like if we have now got a couple of percent
6 cracked rods what should we be seeing at, I don't know, this
7 point? What containment level should we be seeing or what
8 would this have shown at the site boundary and what sort of
9 level would it be? What you are looking for are sort of
10 calibration marks as you get some early data back.
11 Now it says something about the design basis that
12 when you carry out that sort of exercise using the design
13 basis you typically grossly overestimate the release, on the
14 one hand, and underestimate the absorption and diffusion, on
15 the other, in order to have what the staff calls
16 conservative dose levels. These are conservative enough so
17 that they aren't worth a tinker's damn when you are trying
18 to know what doses you would realistically expect from
19 certain events or vice versa.
20 Part of what is going on here is to get Duke to go
21 back and recalculate some of these things on a realistic
22 basis so that those things are of use in the ways that I
23 have outlined and in other ways.
24 COMMISSIONER GILINSKY: Now the point, just to go
25 over this once more, is to get the best estimate for

1 projected doses?

2 CHAIRMAN HENDRIE: And to set up the calculational

3 procedures so that when you get some readings back from

4 monitors you can deal with them without running them through

5 a calculational process which includes, you know, extremely

6 conservative meteorology and things like that I would think.

7 MR. ZALCMAN: The concern is to have the ability

8 to integrate monitoring information in the field as well as

9 radiological monitoring at the plant so that you wind up

10 taking realistic protective measures based upon realistic

11 doses rather than overly conservative protective measures.

12 COMMISSIONER GILINSKY: Well, these would be on

13 the basis of projected doses?

14 MR. ZALCMAN: Well, you have the two, projected

15 doses from projected releases is you lost containment as

16 opposed to actual releases and the actual doses to the

17 environs.

18 COMMISSIONER GILINSKY: Now is there any

19 conservatism in these calculations at all or are they just

20 best estimates?

21 MR. ZALCMAN: There is conservatism in them as

22 well. We are looking at two pieces. One is the ability to

23 take protective measures in advance of having exposure. The

24 other is for the deployment of radiological monitoring teams

25 to the appropriate locations.

1 When you have good dilution conditions, you have
2 well ventilated conditions and you have less exposure than
3 the design basis conditions of very stable conditions, low
4 wind speeds and well contained effluent.
5 COMMISSIONER GILINSKY: Well, it is pretty hard to
6 argue with trying to get the best possible estimate, but
7 these estimates also are then a basis for recommending
8 protective action.
9 MR. ZALCMAN: Correct.
10 COMMISSIONER GILINSKY: What sort of safety margin
11 is inherent in that coupling?
12 MR. ZALCMAN: Well, we don't put a factor on it
13 CHAIRMAN HENDRIE: You don't want a safety margin
14 there. There are risks both ways and you would like to have
15 your best estimate of the situations so you can make an
16 informed judgment rather than having it biased one way or
17 the other.
18 COMMISSIONER GILINSKY: Both ways being what?
19 CHAIRMAN HENDRIE: Well, if you ask people to get
20 out and run around, why they are going to drive into each
21 other and then telephone poles and one thing or another and
22 you don't want to do that unless you can prove that the
23 costs associated with that are less than and it is better in
24 the public interest to take that risk in the interests of
25 moving them out of the path of a release.

1 If the release is small, why it may very well be
2 better going inside and shutting the windows. You don't
3 want that judgment biased by an arbitrary conservatism which
4 is very large at any rate built into the calculations on
5 which you would project doses. You would like to project
6 them on the most accurate basis that you can.
7 COMMISSIONER GILINSKY: You certainly want to
8 start with the best factual basis that you can. There is no
9 question about that. EPA studies showed that people don't
10 tend to get hurt in evacuations to a greater extent than
11 they would in other sorts of movement.
12 CHAIRMAN HENDRIE: If other sorts of movement
13 would not be required in a circumstance and you require some
14 movement, you know, if you tell me that evacuation around a
15 nuclear plant wouldn't end in any more injuries to people
16 than if we cleared out a suburb of Bethesda on account of
17 what, a tornado coming, that doesn't do me much good with
18 regard to whether or not I should call for an evacuation
19 around a plant.
20 COMMISSIONER GILINSKY: There is an EPA study that
21 deals with evacuating a total of something like a million
22 and a half people and they concluded that the number of
23 casualities were remarkably low and the number of people
24 hurt in any sort of way.
25 But leaving that point aside, well, I guess this

1 is something I want to pursue separately.

2 COMMISSIONER AHEARNE: I would like to chime in on

3 Joe's side on that. I think that the people involved in

4 trying to make a decision as to what kind of actions to

5 recommend ought to have the best estimate they can have.

6 COMMISSIONER GILINSKY: That is right.

7 COMMISSIONER AHEARNE: You do want to have the

8 most realistic estimate you can make. Having gotten that

9 estimate ---

10 COMMISSIONER GILINSKY: You then want to err on

11 the side of caution.

12 COMMISSIONER AHEARNE: Sure, but that is different

13 than having calcuations.

14 COMMISSIONER GILINSKY: That is what I am trying

15 to get at.

16 CHAIRMAN HENDRIE: Then you know where caution is.

17 COMMISSIONER GILINSKY: That is what I am trying

18 to get at here.

19 CHAIRMAN HENDRIE: But you are saying let's bias

20 the calculations so we don't know which side caution is on.

21 COMMISSIONER GILINSKY: No. If you had listened

22 you would have heard that I didn't say that.

23 Well, let's go on.

24 MR. EISENHUT: All right. The next couple of

25 items are the control room review and staffing. These two

1 items are both items actually under the control room review
2 here. I think all the words are the same words that were
3 there before when we had the briefing back in January, or
4 about the same words.
5 The only item we are really highlighting here is
6 there are several things that came out of the control room
7 design review. There were quite some number of
8 modifications that had to be put in the control room.
9 Five of those have not been done at this time. So
10 what we did on those five is we conditioned the license. I
11 think it is on page 7 where we just enumerated those five
12 items and we believe it is satisfactory that those
13 modifications be put in place prior to resuming power after
14 the first refueling outage. Most of the modifications have
15 been made but five have not. So we just picked up on the
16 past and put in those five conditions.
17 The next item here on staffing, we have got an
18 update that Steve Hanauer has got in terms of the numbers of
19 licensed operators because there have been some changes
20 since the last time.
21 COMMISSIONER GILINSKY: Could we just go back to
22 the in-core thermocouples. What is the status of our
23 requirements across the board?
24 MR. EISENHUT: We have a requirement out to
25 everyone that they have in-core thermocouples, that they be

1 capable of displaying the full range of the instrument and
2 that they be able to get the information in a short period
3 of time.
4 COMMISSIONER GILINSKY: This is to all PWRs?
5 MR. EISENHUT: All PWRs.
6 MR. HANAUER: There is also a dated requirement
7 that a back-up means, not including the plant computer, be
8 available by January 1st, 1982, with the full range.
9 The present status at McGuire is that they have
10 the full range available through the computer. They have
11 the old fashioned Westinghouse 700 degree analogue system
12 which they are just now in the process of updating. I don't
13 know whether the range of the back-up has actually been done
14 or is scheduled in the next couple of months.
15 COMMISSIONER AHEARNE: You were going to talk
16 about the operating staff.
17 CHAIRMAN HENDRIE: Yes, sir. The operator and
18 senior operator requirement is two of each for each shift.
19 So that the minimum requirements on that basis for shift
20 staffing is 12 seniors and 12 ROs. They have at this moment
21 26 licensed seniors and 14 licensed ROs. Twelve additional
22 ROs took the examination a couple of weeks ago and we don't
23 yet have the grades. So that they are considerably more
24 comfortable than they were six months ago when we talked to
25 you about the McGuire Station.

1 COMMISSIONER AHEARNE: How far along is No. 2,
2 several years?
3 MR. QUICK: It will be approximately two years.
4 COMMISSIONER AHEARNE: There is no problem then.
5 MR. HANAUER: You will be interested to know that
6 of the 26 seniors three have degrees, two bachelor's and one
7 master's, but they are all plant staff people and none of
8 the shift people.
9 COMMISSIONER AHEARNE: We are moving up in the
10 chain.
11 MR. EISENHUT: One other item, Steve, that we
12 ought to mention is that Unit 1 will be required to run the
13 series of special low power tests that we have been putting
14 on other plants coming down the line. So there will be that
15 special training requirement that is a license condition.
16 MR. HANAUER: I would also mention that at this
17 plant all the shift technical advisors have the senior
18 operator's licenses which we think is a good thing.
19 COMMISSIONER GILINSKY: A very good thing.
20 COMMISSIONER AHEARNE: Right.
21 MR. EISENHUT: Thank's Steve.
22 The dated items here is just to say that we are
23 following the same guidance that we have had before on all
24 of the dated items. Following the 737 approach as best as
25 possible there have been some slight revisions to some of

1 the dates to be sure that we have confidence that these are
2 the real dates.
3 Mentioning the one we did on the in-core
4 thermocouples a second ago, there is, for example, a license
5 condition that points out that when they have to have the
6 full range back-up there is the reactor water level
7 condition. All of those we are putting in as dated items
8 following the 737 approach.
9 It really goes along with the last item here.
10 When we had the zero power fuel load license meeting in
11 January there were a couple of items, I think five items,
12 that had yet to be done, various TMI items.
13 They have all been completed with the exception of
14 two on that outstanding list. One was the vendor review of
15 the low power testing procedures and one was the reactor
16 coolant system vents. Those have gone into the license as
17 license conditions.
18 In fact, it is pointed out that prior to exceeding
19 one percent power is the way the condition on vents is put
20 in since it is a fuel load license.
21 The only other item we have on the agenda is a
22 status of the plant and present activities and a summary of
23 where we are on the SALP program which Don Quick is going to
24 present.
25 COMMISSIONER AHEARNE: Before you move to I&E

1 could I ask two questions?

2 MR. EISENHUT: Sure.

3 COMMISSIONER AHEARNE: I noticed that in your SER,

4 this is in No. 5, you make mention on the seismic design

5 analysis. This is on 3-(1), that the licensee base the

6 assessment of conservatisms on work performed under one of

7 the particular NRC research programs. Then I gather that

8 you mention that this research program hasn't yet received

9 staff approval or the approach endorsed by that program

10 hasn't received staff approval. It is the Seismic Safety

11 Margin Research Program.

12 MR. EISENHUT: Oh, the SSMRP, yes.

13 COMMISSIONER AHEARNE: The wording just seemed a

14 little odd. It almost sounded like that the licensee used

15 the program endorsed by one branch of the agency and another

16 branch of the agency has not yet approved that. So I want

17 to know, (a) whether that is a correct reading and (b) what

18 is the status of your review of the research?

19 MR. DENTON: The program that is being done by

20 research for NRR is one we requested to look into the

21 seismic requirements. I don't know that we have any

22 particular complaint with the results, but the program isn't

23 over yet and I would presume, and I will ask Dick to clarify

24 that we were trying to preserve the fact that we may not

25 adopt exactly every iota that comes out of the seismic

1 margin research program.

2 MR. VOLLMER: We have not really adopted that as

3 part of our review process. The words I think are a bit

4 misleading. I think the staff evaluation would show that

5 they do meet indeed all of our licensing criteria. For some

6 reason or other we were discussing some margins there of

7 conservatism which are not really part of our evaluation but

8 which the SSMRP sets out to identify. We have bits and

9 pieces from that program but I don't think which would

10 constitute a basis for our licensing review.

11 I guess to sum up I would have to say the

12 licensing review did not depend on that bit of information.

13 It stands by itself.

14 COMMISSIONER AHEARNE: Is it a correct reading

15 that Duke used an approach out of that program?

16 MR. VOLLMER: Apparently they did.

17 COMMISSIONER AHEARNE: But that approach is not

18 one that you have endorsed?

19 MR. VOLLMER: That is right.

20 COMMISSIONER AHEARNE: Do you intend to review the

21 program's approach to decide whether or not to endorse it?

22 MR. VOLLMER: We have been reviewing the program.

23 I think endorsement of the program would be more applied to

24 older reactors which do not have, let's say, a particularly

25 rigorous seismic design criteria but using the program to

1 analyze the inherent margins contained in UBC designs and
2 things like that which say, you know, these are really
3 pretty good because of the inherent margins available.
4 That is the type of thing we are getting out of
5 this research program. I don't think it really would have
6 particular application to new plants. Certainly we aren't
7 using it as applied to new plants.
8 COMMISSIONER AHEARNE: So you are saying that you
9 would not advise licensees coming in to use it?
10 MR. VOLLMER: That is right.
11 COMMISSIONER BRADFORD: While you are on that
12 subject, the license itself contains a condition requiring a
13 seismic distant piping reanalysis to be presenting within 90
14 days. What is that all about?
15 MR. EISENHUT: I think that is a spin-off of the
16 same thing we have been talking about.
17 MR. MIRAGLIA: That is exactly the thing we have
18 been talking about as a result of them deviating from the
19 SRP. The staff has asked the applicant to go back and
20 reanalyze using the SRP methodology to confirm that the
21 conservatisms are there. That is discussed in Supplement 5,
22 Section 3.7.
23 COMMISSIONER AHEARNE: What licensees should
24 understand is that they should not use the methodology
25 developed under the research program.

1 MR. MIRAGLIA: Exactly. It was a little
2 premature. Since they did that we have looked at it and
3 said it is okay in the interim and we think it will be all
4 right but go back and find out if those margins are really
5 there by using the models specified in the SRP. That is why
6 that license condition is there. It is an exact spin-off of
7 the point that you raised.
8 MR. SCINTO: May I make a comment. You are
9 discussing seismic design. In the adjudicatory proceeding
10 there was an issue related to seismicity. I think that is a
11 different issue but I wanted to make that clear on the
12 record today. There was an issue relating to seismicity in
13 the area in the adjudicatory proceeding. I think what you
14 are discussing is something different.
15 COMMISSIONER AHEARNE: I am glad that it was a
16 lawyer who joined.
17 MR. BICKWIT: We have been discussing the same
18 subject.
19 CHAIRMAN HENDRIE: Somebody got interrupted. Was
20 it you, Peter?
21 COMMISSIONER BRADFORD: It was. The point is fair
22 enough, but I think as long as we stick with what is inside
23 the plant rather than what is inside the earth we are
24 probably all right.
25 How is it that you get to this point in time, that

1 is with the license actually before us, with an issue like
2 that still requiring a reanalysis?
3 MR. DENTON: I don't know the answer right off.
4 COMMISSIONER AHEARNE: I suspect part of it is
5 that they thought the licensee probably said that they were
6 using an NRC accepted methodology.
7 CHAIRMAN HENDRIE: I don't know the particulars,
8 Peter, but McGuire and some other plants that we will be
9 seeing before long, and a couple that we have just seen,
10 came through the construction permit stage at a time when
11 seismic design requirements were evolving pretty rapidly.
12 If McGuire had had its construction permit perhaps even a
13 year and certainly two years later than it did it would be
14 sort of in a different category with regard to seismic
15 analysis.
16 You remember around the Sequoyah station there was
17 a big reanalysis program that went on for a couple of years,
18 really an enormous effort, because we continue to face of
19 problem of looking at final designs and safety analyses on
20 plants for which the initial ones and the approvals thereof
21 were on a less rigorous basis. I suspect that the sort of
22 particular area you mentioned here with regard to this
23 license condition is sort of that effect propagating all the
24 way down the line.
25 MR. DENTON: The programs are so massive in this

1 area. I am sure that in many plants, and I don't know the
2 particulars in this case, there is a reasonable expectation
3 that the staff and the applicant will come to an agreement
4 over some method that is different than today's standard
5 review plan. So they proceed in trying to resolve that.
6 Obviously in this case it was not final closure
7 that their method was completely acceptable and the staff is
8 asking that it be redone in effect using the standard review
9 plan approach. They are sufficiently confident that they
10 understand it that they are willing to proceed on it. If
11 all of the issues had resolved then we would have said
12 something differently about the seismic approach.
13 COMMISSIONER AHEARNE: The other question I had
14 has to do with the antitrust section. This is on page 15,
15 Section (c). It says each party shall establish its own
16 reserve criteria but in no event shall the minimum installed
17 reserve on each system be less than 15 percent.
18 I am not sure how that cuts with respect to the
19 argument on what is the reserve in the Duke system.
20 MR. DENTON: We will have to get back to you on
21 that. We don't have anyone from our antitrust review
22 section down here.
23 COMMISSIONER AHEARNE: I realize I can't ask any
24 more questions on that because, as I recall, was that one of
25 the issues? I am just asking a question of what the

1 implication is of putting that in is?

2 MR. DENTON: Can we get together with you later

3 today?

4 COMMISSIONER AHEARNE: Fine.

5 CHAIRMAN HENDRIE: Not much for safety I suspect.

6 COMMISSIONER AHEARNE: Oh, no. It is a different

7 question.

8 COMMISSIONER BRADFORD: Let's see, you had on the

9 Sequoyah plant a tech spec which was designed to prevent

10 maintenance people from closing off a flow path between the

11 upper and lower compartments. Do you have that here as well?

12 MR. EISENHUT: Yes, we do. We have have on this

13 plant the same two tech specs that we discussed.

14 COMMISSIONER BRADFORD: That has become a standard

15 ice condenser tech spec?

16 MR. EISENHUT: Yes, it has.

17 COMMISSIONER BRADFORD: Dick Vollmer, let me go

18 back to our fire protection discussion earlier on. I am

19 puzzled as a matter of license writing technique, if that is

20 all it is. It is in fact Section 3-L of Appendix R that

21 speaks to alternate and dedicated shutdown capability.

22 Let's start with that. What puzzles me is why you

23 just don't list 3-L as being among the sections that Duke

24 Power shall comply with.

25 MR. VOLLMER: Because if they fully complied with

1 3-G in terms of separation then 3-L as an alternate or
2 dedicated shutdown would not be needed.
3 COMMISSIONER BRADFORD: But if that is true, then
4 why are they implementing a standby shutdown facility system?
5 MR. VOLLMER: Because I think this circumvents and
6 in their view provides a better system to achieve the
7 necessary safe shutdown. One can't necessarily in a plant
8 always achieve what you want in terms of separation so you
9 go to alternate or dedicated shutdown. The alternate
10 shutdown can be procedurally and physically in terms of
11 wiring very complex. Particularly when you have to meet all
12 the associated circuits, conditions and so on there can be a
13 lot of wires involved.
14 So it in many cases could be a simpler and a more
15 direct approach just to go to the dedicated shutdown system
16 and that is what they have chosen to do. It is a way of
17 getting around the fact that you can't meet the separation
18 criteria literally.
19 COMMISSIONER BRADFORD: But the standby shutdown
20 facility system is a 3-L dedicated shutdown system in our
21 veiw. So this system meets Section 3-L.
22 MR. VOLLMER: Oh, I see what you are referring to
23 now. Why isn't 3-L part of the license.
24 COMMISSIONER BRADFORD: Yes.
25 MR. VOLLMER: I really don't know the answer to

1 that except it is a way of meeting 3-G. So perhaps since it
2 committed to meet it one could put it in, although it is
3 really in the license that they have done it.
4 COMMISSIONER BRADFORD: That is what I am after.
5 If all that (a) is is a commitment to meet 3-L, then just as
6 a matter of putting this section together why doesn't it
7 just say they will meet 3-L in the same manner it mentions
8 the other three sections?
9 MR. VOLLMER: That seems reasonable.
10 MR. DENTON: Why don't we look at that.
11 COMMISSIONER BRADFORD: What I am really after is
12 whether there is something substantive here. It doesn't
13 matter to me really how it is written.
14 MR. DENTON: We think this program is fully
15 satisfactory with a dedicated shutdown system that is sort
16 of unique. Very few plants have it and we just have not I
17 guess looked at exactly how the sections interacted.
18 COMMISSIONER BRADFORD: As I say, I am not sure it
19 makes any difference at all. What I was really trying to
20 get at was whether by writing this out without mentioning
21 Section 3-L there was in fact some part of 3-L that they
22 were not meeting?
23 MR. VOLLMER: While I am up here I have done a
24 little further reading on the seismic problem. If you go
25 back to Supplement 4 you can see the origin of the problem

1 was the I&E bulletin on pipe hangers and supports. So I
2 guess in going back through the reanalysis of that they came
3 up with something that did not meet our specific
4 requirements on that and they apparently invoked some of the
5 information from SSMRP. So I think that is the process of
6 negotiation. I wasn't aware of the origin of it when you
7 first brought it up.
8 COMMISSIONER BRADFORD: Let's see, if that
9 something different than what you were saying before? That
10 is before, as I understood it, it was purely a problem of
11 analysis, that they had used an analytical method that we
12 weren't fully comfortable with but we thought that the
13 approved method would yield similar results.
14 Are you saying now that there is actually some
15 part of the plant that the compliance of which ---
16 MR. VOLLMER: No, I think what we said before
17 still holds. I went back into Supplement 4 to find the
18 origin of the problem and it was the I&E bulletin dealing
19 with pipe hanger supports for piping systems.
20 MR. EISENHUT: That is more addressing to timing.
21 MR. VOLLMER: That is the reason it came up late.
22 COMMISSIONER BRADFORD: Okay.
23 MR. EISENHUT: Remember in '79 we went through a
24 whole series of seismic upgrades on piping and this is just
25 a spinoff of the last piece of that being wrapped up.

1 CHAIRMAN HENDRIE: Okay. The I&E report.

2 MR. QUICK: As far as the status of the facility
3 at this time, I&E has completed all of the preoperational
4 testing and zero power testing inspection requirements. We
5 are satisfied to that extent that Duke Power is ready to go
6 critical and accomplish the zero power testing.

7 We have not at this point reviewed power ascention
8 test procedures mainly because we have not received the
9 copies of the vendor's review of these power ascendant test
10 procedures. We normally await that prior to the time that
11 we pass judgment one way or the other on the adequacy of
12 those.

13 The plant itself is scheduled as of yesterday to
14 achieve initial criticality on June 26th. We believe that
15 is a reasonable date. Initially fuel loading was completed
16 on February 3rd and obviously there is quite a delay there
17 between fuel load and criticality.

18 The reasons for this, and there are several, and I
19 will just list a few of these.

20 One was a flange seal leak on the reactor coolant
21 pump "D". This appears to have been as a result of improper
22 installation or something of that nature in the original
23 installation of the pumps. Since that time the seal has
24 been replaced and all reactor coolant pump flanges have been
25 reworked and so forth.

1 They have replaced some block in-core guide tubes
2 that extend from the bottom of the vessel out and up to the
3 seal table for the in-core drives. This was done as a
4 result of debris that was found within the tubes as a result
5 of construction.
6 The reactor vessel "O" ring was leaking around the
7 head as a result of a scratch across the surface evidently
8 during construction. Westinghouse evaluated this. The
9 scratch was blended into the surrounding metal and the seal
10 replaced.
11 Additionally, there was a seal failure on reactor
12 coolant pump "A". This was as a result of a failed seal
13 water filter which resulted from an abnormally high delta
14 "P" due to debris in the CVCS system and the failure of an
15 alarm, we are told by the licensee, to alert the operator to
16 the fact that they had excessive delta "P" or low flow, low
17 seal flow. Since that time the seals have been replaced on
18 the reactor coolant pumps, the filter obviously replaced and
19 everthing seems to be working satisfactorily at this point.
20 The last item is still in the progress of being
21 reworked and that is on the reactor coolant system boundary
22 leakage, the check valves mainly in the safety injection
23 system.
24 They have had difficulty in meeting the new
25 technical specification leak rates on these check valves

1 which are now one GPM. They are as of yesterday in the
2 process of repairing these valves with six remaining to be
3 refurbished.
4 Following the completion of that refurbishment the
5 plant will be ready then to go into the mode of progressing
6 toward criticality.
7 COMMISSIONER GILINSKY: Are you saying in effect
8 that even if the plant had a license it could not have gone
9 beyond its present point in terms of fuel loading and
10 criticality because of the various items that you mentioned
11 here?
12 MR. QUICK: That is correct.
13 COMMISSIONER AHEARNE: So they were working on at
14 least a reasonable schedule but they were going slow.
15 MR. QUICK: Most of these things were as a result
16 of occurrences which took place during construction and were
17 found during the time of pre-operational testing or
18 preparation for criticality, the normal bugs that you would
19 find in a plant like this just prior to start-up.
20 COMMISSIONER AHEARNE: Is this normal to take four
21 and a half months from fuel load to initial criticality?
22 MR. QUICK: I think that will vary from one plant
23 to another, but as I said, some of these items that we see
24 here were rather critical items from a time standpoint to
25 effect repairs on. They are not simple items to accomplish.

1 CHAIRMAN HENDRIE: Normally you would want this
2 kind of thing cleaned up before you loaded fuel.
3 MR. QUICK: Yes.
4 CHAIRMAN HENDRIE: The sequence here for one
5 reason or another or perhaps the time in which you could get
6 parts for a seal repair or something apparently indicated
7 that it would go the other way.
8 MR. QUICK: As far as outstanding issues from the
9 license, the zero power license I am referring to now, we
10 have accomplished verification on all outstanding issues
11 from the SER.
12 As of this point the only item that remains to be
13 verified are the reactor coolant vents which obviously the
14 have to achieve full pressure and temperature in order to
15 accomplish proper functional tests on.
16 COMMISSIONER AHEARNE: I have a question there. I
17 notice that you were using a different style of folding I&E
18 in on this license than you did on Sequoyah. Is that two
19 different people writing the license or is that a decision?
20 MR. EISENHUT: No. To some degree it is two
21 different people. Here we don't have the long list that we
22 had in the proposed Sequoyah license.
23 COMMISSIONER AHEARNE: But there still are number
24 of items.
25 MR. EISENHUT: There are a number and we would be

1 proposing just to attach those as a standard list of
2 whatever items I&E has.
3 MR. QUICK: We in I&E have outstanding issues
4 almost every day. There is one thing I might point out
5 here. McGuire in particular has received double the average
6 inspection effort over the previous two years in that we
7 have accomplished some 2,400 man-hours of inspection effort
8 there. Whereas the national average is somewhere around
9 1,200 for the same two-year period prior to start-up of a
10 facility.
11 This is not indicative of the fact that McGuire
12 has done any poorer than anyone else. As a matter of fact,
13 the SALP review rates McGuire and Duke Power as being
14 average in the region.
15 Most of the difficulties that you have seen with
16 McGuire have been of the procedure inherence nature or
17 living with the tech specs, if you will.
18 COMMISSIONER AHEARNE: What was the reason that
19 McGuire received such a large amount of inspection effort?
20 MR. QUICK: I don't know that I can answer that
21 fully. I think that one of the reasons is the advent of the
22 team inspectin concept and McGuire being one of the first
23 facilities to come under scrutiny during approach to power
24 operation since we have implemented that type of inspection
25 effort, such as the QA program, fire protection review and

1 so forth.

2 I guess all I am saying is that as a result of
3 double the inspection effort at McGuire we have not seen a
4 corresponding increase in the numbers of non-compliances or
5 problems that were identified at McGuire. I think that that
6 is somewhat of a basis to show that the rating of McGuire as
7 being average in the region is probably conservative from
8 that standpoint. If we were to go back and take a second
9 look at them now we might revise that rating upward somewhat.

10 COMMISSIONER AHEARNE: This has nothing to do with
11 this particular issue but I will ask it anyway. Previously
12 we have heard that TVA was below average in the region. Now
13 Duke is average in the region. Out of curiosity who is
14 above average in the region?

15 MR. QUICK: I would rather not get into the rating
16 of our licensees in the region, but I will say one thing,
17 that generally speaking the smaller utilities seem to be
18 doing better from an overall standpoint.

19 MR. EISENHUT: Just following on what Don is
20 saying, you know, we are putting together in headquarters
21 the package from all the different regions, the overall
22 rating package and I think it is due late in June to be
23 finalized. We are working on that to try to put some
24 continuity between the regions and to look at those kinds of
25 things in the regions. We are trying to balance it out. I

1 think it is just premature yet.

2 MR. QUICK: As a result of the SALP review we look

3 at McGuire over the last couple of months, especially with

4 respect to the following of procedures, adherence to

5 procedures and that sort of thing. We found that they have

6 programmatically improved quite a lot.

7 They still have their problems living with the new

8 tech specs and I think as I pointed out in the Sequoyah

9 licensing case that is a learning curve experience that

10 takes place on every facility. During this period of time I

11 think we almost have to expect that some errors will be made

12 as a result of the new tech specs that they have to live

13 with as complex as they are today.

14 In touching base yesterday with our QA program

15 team leader they indicate to me that Duke Power at McGuire

16 station has one of the best QA programs in place and

17 implemented that they have seen in our region which I think

18 is indicative again of the spirit of cooperation and so

19 forth on the part of Duke Power.

20 They are trying very hard to correct their

21 difficulties and we have seen improvements within the last

22 few months which leads us to believe that they are on the

23 right road and that we can expect that the error rate and so

24 forth will decrease as indicated over the past couple of

25 months.

1 With that then that completes what I had as far as
2 the status of the facility and the status of the I&E
3 inspection program.
4 We would as of this point recommend the issuance
5 of a license.
6 Unless there are any questions on that material, I
7 will go over this PN that you all received yesterday as a
8 result of the formation of steam voids in the reactor
9 coolant system that occurred on June 2nd.
10 During the time that the plant was attempting to
11 cool down on a residual heat removal system the reactor
12 coolant pumps had been shut down so that the only
13 circulation in the reactor coolant system at the time was
14 from the residual heat removal system which takes suction
15 from one hot leg and discharges back to two cold legs. This
16 leaves a relatively stagnant situation in the other two
17 loops in the reactor coolant system.
18 The temperatures of the reactor coolant system
19 were indicated somewhere between 160 and 170 degrees at the
20 time that they decided to vent the system and decrease
21 pressure to the point to achieve cold shutdown.
22 Upon opening the vent to decrease pressure they
23 noticed an increase in pressurizer level of some three to
24 four percent indicating right away to the operators that
25 they had possible voids in the system. They recognized this

1 right away and took steps to repressurize the system and to
2 bring the pressurizer level back to the normal point it was
3 before.
4 They then operated in that configuration for
5 another eight hours and attempted to do the same thing
6 again. At this time the reactor coolant system tempertures
7 and RHR temperatures, I might indicate, were on the order of
8 about 117 degrees. Upon attempting to vent the system a
9 second time the same thing occurred.
10 They again recognized the fact that they
11 apparently had voids in the system and upon further
12 evaluation realized that the voids must be in the two idle
13 loops, which RHR does not return to, probably in the tops of
14 the steam generators in those loops or possibly in the upper
15 head section.
16 As a result of thermocouple readings in the upper
17 head region after the first attempt at venting the head
18 temperatures were indicating approximately 290 degrees
19 indicating they were above boiling and that that was the
20 source of the voiding.
21 After the second attempt they then repressurized
22 the system, started reactor coolant pumps to sweep the
23 system and then upon a third attempt to depressurize did so
24 successfully and achieved cold shutdown.
25 This event is not something that we have not seen

1 before. We saw the same sort of thing on St. Lucie. The
2 only difference I guess is that in this particular event
3 there was a question as to where the voids were in the
4 system, whether it was in the upper head region or in the
5 steam generators.
6 I hesitate to identify, particularly at this time
7 exactly which one it was. I don't think we know. I think
8 that from a safety standpoint, however, because of the fact
9 that there is no decay heat history on the core, operational
10 history on the care and therefore no decay heat, there was
11 relatively no safety significance to this event from that
12 standpoint.
13 Had there been decay heat in the system the event
14 probably never would have occurred in that natural
15 circulation could have been achieved and would have been
16 achieved prior to the time that they attempted to vent and
17 the system would have been cooled down uniformly.
18 COMMISSIONER AHEARNE: Do you think the operator
19 should have figured it out in that eight-hour period where
20 the void was?
21 MR. QUICK: Well, I can't speak to what else was
22 going on in the facility at the time. There was other
23 testing and modification work and so forth being done. Just
24 what their line of reasoning was during that eight-hour
25 period, I don't know.

1 All I do know is that the operators did recognize
2 the situation that occurred very promptly and took the
3 proper action to correct the situation.
4 CHAIRMAN HENDRIE: It seems to me that there is a
5 positive side to it and that lies in the operator's
6 recognition of what was going on in the machine. That
7 lesson from Three Mile Island has clearly been well learned
8 at least at the McGuire station.
9 Once as you understand that if you drop pressure
10 at some place you have got a hot enough point in the system
11 to boil and that you are beginning to get some voids. Once
12 you understand that, then the chances that the plant will
13 get into trouble subsequently are pretty small because you
14 then know what to do and what directions to go in order to
15 control it and take whatever other steps are appropriate.
16 So I think that came out just fine.
17 COMMISSIONER GILINSKY: Your PN says that the
18 question of the applicability of this event to other
19 reactors, or the generic applicability of this event is
20 being evaluated by I&E headquarters.
21 MR. QUICK: Yes.
22 COMMISSIONER GILINSKY: Is there anything more
23 going on now on this or have you closed it out?
24 MR. QUICK: I would like to refer to Mike Wilber
25 on that question if I could.

1 MR. WILBER: I can't speak to it now. That would
2 be in the events section. You are talking about further
3 analysis of this?
4 COMMISSIONER GILINSKY: Well, I just wondered what
5 this sentence meant.
6 MR. EISENHUT: What that sort of means is that NRR
7 sits down with I&E and weekly goes through the significant
8 events that have occurred at a management level and we have
9 a formal process where NRR will be following up on this also
10 with I&E in looking at these events.
11 So the event specifically will be evaluated and
12 its generic implications. It is a systematic process.
13 MR. DENTON: It is too early to say. We meet each
14 Wednesday on all of the events which have occurred. Some
15 stay with I&E and some we transfer formally to the NRR and
16 we divy up the work and we invite the EOD and others to
17 attend this session. We take all of the operating
18 experience each week and decide who is going to be
19 responsible for which pieces.
20 CHAIRMAN HENDRIE: This isn't an event in which
21 some esoteric equipment idiosyncrasy led to a matter which
22 we will want to study and discuss with the plants far and
23 near. You know, God made the world. So that if you have
24 got a pressurized system with a fluid like water and you
25 drop the pressure and there is some part of the system in

1 which the temperature is now above the new saturation
2 temperature, by God you get boiling and voids. That is the
3 way the universe works, folks.
4 So you can reasonably expect that this sort of
5 phenomena can occur and probably has occurred a lot of times
6 in the past.
7 What is important from our standpoint is not that
8 it does or doesn't occur, but rather that operators
9 understand it. As they are blowing down the pressure a
10 little bit and seeing the indication of an increase in
11 pressurizer level they understand what that means and then
12 maybe they go ahead and continue to blow down or do whatever
13 is appropriate. From our standpoint it is the understanding
14 of the phenomena and the indications on the standards sorts
15 of instruments that operators see that is important.
16 The Duke people read it right. Fine.
17 COMMISSIONER GILINSKY: Can I ask you why it took
18 a week for this PN to be issued from the time that Duke
19 informed I&E of the event?
20 MR. QUICK: I guess the reason for that is
21 probably related to the safety significance as we saw it at
22 the time of the event. This in our opinion was a one-time
23 event that was as a result of the fact that there was no
24 decay heat in the system. Therefore it was impossible to
25 establish natural circulation in the system and therefore we

1 saw no safety significance to the event from that standpoint.
2 Had the core been operational at one time or
3 another then, as I pointed out before, they would have had
4 natural circulation and the vent itself would probably not
5 have happened unless they had cooled down too rapidly which
6 was the case at St. Lucie.
7 We have since that time put out guidance with
8 respect to that event.
9 CHAIRMAN HENDRIE: If you have got enough
10 circulation, either forced or natural, in the system why you
11 tend equilibrate temperatures and then you won't have a hot
12 spot of enough significance to give you any visual voiding
13 as you bleed the temperature down.
14 COMMISSIONER GILINSKY: Well, that would explain
15 not issuing a PN, but what is the normal time between an
16 event and a PN?
17 MR. QUICK: Normally we will issue a PN in the
18 same day that we learn of the event. In this particular
19 case, as I said, we did not see the safety significance
20 associated with it. However, in view of the license hearing
21 is taking place today we simply issued the PN to be sure
22 that everyone was aware of the fact that something had
23 occurred there and smacked of steam voids. It is that
24 simple.
25 MR. EISENHUT: That completed our presention on

1 the parts of the license as we said that were not in
2 controversy. Along with that, the license we provided to
3 you is a license that has a blank power level in it. It is
4 a license that can be used we believe for any power level up
5 to full power. That is the way it was written.
6 That concludes our presentation.
7 MR. SCINTO: May I comment. I does contain one
8 condition associated with the hydrogen control system which
9 is related to the adjudicatory proceeding.
10 COMMISSIONER GILINSKY: Let's see. The proceeding
11 didn't deal with the actual conditions as far as I can
12 tell. They were imposed separately.
13 MR. SCINTO: I can't remember whether it is the
14 ordering clause or the conclusion clause. It is very close
15 to the end. It reflects the fact that the staff has
16 discussed with the Board certain conditions associated with
17 the hydrogen mitigation system. The Board indicates that it
18 believes that those were appropriate for McGuire as well.
19 CHAIRMAN HENDRIE: Vic?
20 COMMISSIONER GILINSKY: No.
21 CHAIRMAN HENDRIE: John?
22 COMMISSIONER AHEARNE: No.
23 CHAIRMAN HENDRIE: I don't have anything else. My
24 colleagues don't have any questions at this time on these
25 areas. It is a little later than I had hoped actually. I

1 will then prepare to move to the next phase of the meeting.
2 In order to do this I am going to ask my
3 colleagues to join me in voting the subsequent portion of
4 the discussion of the McGuire operating license, an
5 adjudicatory matter, under Exemption 10 of the Commission's
6 regulations and of the Government in the Sunshine Act.
7 Those in favor please say Aye.
8 (Chorus of Ayes.)
9 CHAIRMAN HENDRIE: We are unanimously determined
10 to turn now to a closed meeting of the Commission and I will
11 ask therefore that members of the public and members of the
12 Executive Director's staff of the NRC staff please
13 withdraw. The Commission will want to meet with its own
14 Office of the General Counsel on policy evaluation. The
15 Secretary's people may stay.
16 (Whereupon, at 11:45 p.m., the public meeting
17 adjourned.)
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NUCLEAR REGULATORY COMMISSION

This is to certify that the attached proceedings before the

COMMISSION MEETING

in the matter of: PUBLIC MEETING - Briefing on McGuire Operating License

Date of Proceeding: June 9, 1981

Docket Number:

Place of Proceeding: Washington, D. C.

were held as herein appears, and that this is the original transcript thereof for the file of the Commission.

Mary C. Simons

Official Reporter (Typed)

Mary C Simons

Official Reporter (Signature)